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ABSTRACT

This document reviews the literature, previously cited in RIE, concerned with open plan schools. The open plan design is defined as one that encompasses large, open areas that shelter numbers of students, paraprofessionals, and teachers in a climate of daily change. Central to the discussion of the open plan concept is the consideration that a school building utilizing this innovative concept is being considered less and less as a static "facility" and more and more as a "catalyst" or a dynamic agent in the learning process. The 26 documents surveyed in this review are discussed under (1) flexibility and innovation, (2) evaluation, (3) information sources, (4) application, and (5) variation. (MLF)

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Open Plan Schools

Alan M. Baas

> Open spaces provide the potential to permit and encourage continuing improvements in instruction to a degree not possible in conventional schools. The only barriers remaining are those of an absence of creativity and desire.
>
> *Kyzar (1972)*

Much of education today is characterized by innovation and a willingness to change. Nowhere in the field of school facilities is this spirit more evident than in the concept of "open plan" schools.

For more than a century, facilities design and use centered about the "eggcrate" or unit construction of classrooms separated from one another by solid walls and connected by a series of corridors. The 1950s saw experimentation with "pods" or clusters of classrooms defined by movable partitions and capable of comprising larger or smaller spaces according to educational needs. The past decade (particularly the last four years) has marked the evolution of variable space into large open areas sheltering numbers of students, paraprofessionals, and teachers in a climate of daily change.

Change in facility design can be related directly to changes in concepts of educational goals and processes. Concern for optimizing student and teacher performance has opened the door to radical departures from traditional instructional and administrative methods. Hand in hand with a reevaluation of technique has come a recognition of the individual differences in students and teachers and the need to accommodate these variances. This understanding is shown in the widespread use

of individualized instruction, the introduction of paraprofessionals to reduce the student-adult ratio, the restructuring of curriculums to provide for greater student and teacher initiative (time seen as a kind of "open space"), and more emphasis on the student-teacher-parent triangle with its accompanying implications for community use of school facilities.

It is the hope of educational planners that the open plan school can best reflect the array of tangible and intangible changes in the educational process. To this end, the *CEFP Journal* (September-October 1971) identifies "open space" as a "state of educational effectiveness in program, instruction and attitude." The school building is seen more and more as a *catalyst,* a dynamic agent in the learning process.

The literature on open plan schools varies widely in quality and focus. This is understandable, considering the newness of the concept and the scope of its implications. Documents surveyed in this review range from a report on a statewide program of "open schools" (a description somewhat different from the facility term, open plan school, but related in concept) to case studies of particular schools employing open plan facilities. The prevailing opinion expressed in the literature is optimistic and highly cognizant of the need for further evaluation.

All but seven of the documents are available from the ERIC Document Reproduction Service. Complete instructions for ordering documents are given at the end of the review.

FLEXIBILITY AND INNOVATION

The relationship between innovation and schoolhouse environment receives attention in a report by Coughlin (1969) on the involvement of the Educational Facilities Laboratories (EFL) in facility design and research. The report delineates the design, structural, and functional features of the open plan school and considers performance specifications for building components suited to variable spaces. In addition, Coughlin discusses the influence of instructional hardware (computers, films, television, and tapes) on schoolhouse design.

Burr (1970) believes a major difference between the school of today and that of 1980 is in the emphasis on individualized learning. He sees the schoolhouse of the future characterized by the open plan concept with learning and administrative processes coordinated to accommodate flexible spaces.

According to Burr, the role of the teacher will shift from that of a lecturer and a verbal source of facts to that of a manager of the learning process and a source of counseling and motivational support for students. In addition, the learning process will be expanded to incorporate various opportunities for community interaction, and the school facility will become a learning center for all ages. Against this background, flexible spaces will involve a reduction of conventional corridor space, the minimizing of fixed walls, and the innovative use of movable partitions.

Seven papers from the symposium on schoolhouse planning held by the Fresno County Regional Planning and Evaluation Center (Fresno County Schools 1969) discuss the kinds of space needed for effective learning. The papers, published as one volume, describe various changes in educational philosophy and technology contributing to a new understanding of the learning environment. To this end, the authors relate

their experiences with open schools and middle schools. Educational finance, specifications, and innovative programs are discussed as they affect schoolhouse design and construction techniques.

Open plan schools and a cluster of related topics are dealt with in an Ontario Department of Education (1970) report on a school design workshop. The report contains speeches and notes of educators, architects, engineers and contractors who participated in the workshop. Topics include open plan schools, instructional materials centers, environmental control, community schools, and team planning in construction systems for buildings.

The *CEFP Journal* (September-October 1971) devotes an entire issue to the subject of space in the educational environment. Articles discuss the relationship between spatial freedom and educational innovation from several points of view. Steps to optimize use of an open plan facility include inservice training of administrators and teachers and more effective planning and evaluation techniques.

Generally the open plan concept has proved highly successful in operation. The journal describes the student's role as changing from one of passive noninvolvement to one of active participation in the learning process. The student's freedom to progress at his individual rate encourages self-exploration and reduces the need for the teacher to double as an authority figure. However, the noise factor particularly needs further research. Although overall student learning has not been seriously hampered, more planning is needed in the placement of various instructional groups relative to noise sources.

Propst (1972) notes that the knowledge explosion has caused the traditional structure and organization of both educational processes and schoolhouses to become obsolete. Focusing primarily on the high school, he relates "information territories" to the open plan concept and draws a number of specific conclusions regarding the management of a contemporary learning facility. Propst integrates modern educational psychology, social theory, and facility planning techniques to propose an approach to schoolhouse design that can creatively meet the needs of today and prepare for those of the future.*

EVALUATION

A national seminar sponsored by EFL brought together a number of architects, teachers, and administrators who have had experience with open plan schools. According to the seminar report published by the Institute for Development of Educational Activities (1971), the flexible physical arrangement and teaching program of the open plan school hold great promise as a way of teaching people to think for themselves. In addition to the history and physical aspects of open plan schools, the document discusses processes relating to an open environment such as individualized instruction, team teaching, student grouping, and changes in administrator roles.

A survey by Pritchard and Moodie (1971) collects the opinions of both current and former open plan school teachers regarding open areas. Responses noted were generally positive, with some reservations held concerning the nature of teacher training, facilities planning, and educational procedures.

Kyzar (1971) describes a study comparing

*An excerpt from Propst's book appears in *The American School Board Journal*, 159, 11 (May 1972), 26-29.

various instructional practices and problems in open plan classrooms with practices and problems in conventional plan school buildings. He gathered comparative data on four schools of each type concerning teaching techniques, psychological climate, social organization, order maintaining techniques, provisions for individual differences, and activities utilized in the instructional program. One finding is that taking down the walls does not necessarily mean opening the door to noise pollution. A sound survey of the amount of noise transmitted between instructional areas determined that noise is not a significant problem in open space schools.

A journal article by Kyzar (1972) briefly summarizes research findings and conclusions regarding open plan schools. He notes that an inservice training program for teachers and administrators contributes significantly to the success of such schools.

The contribution of educational anthropology to educational innovation is exemplified in a paper by Smith (1971). He describes a study of open plan schools using the participant observation mode of inquiry. Two interrelated conclusions resulted: a distinguishable variation in administrative strategies existed when each group of teachers developed its own style, and administrative decisions precluded utilization of the facility as planned. Smith notes that additional data must be gathered from a series of case studies before such an approach can provide accurate conclusions.

Information Resources

Molloy (1972) gathered assorted information on current developments in the planning and use of educational facilities into a resource catalog with names and addresses of prime information sources. The document is intended to give access to the latest developments in educational facilities and their relationship to educational experimentation. Information sources include individuals and organizations whose concrete experiences qualify them to provide the most accurate information available.

The Ontario Institute for Studies in Education (1970) provides an annotated bibliography of materials relating educational programs to open plan schools. Materials covered in the first section include discussions of the program, its administration, and the teacher's role. The second section emphasizes building design and equipment as they relate to educational facilities.

Another annotated bibliography of open plan materials is contained in a Metropolitan Toronto School Board (1972) study of school facilities in that city. The document is related primarily to a survey of systems-built schools under Toronto's Study of Educational Facilities (SEF) program, which incorporates contemporary systems building techniques in the design of a large number of flexible space facilities. Accordingly, the user survey contained in it may be of assistance to anyone contemplating open plan schools.

Applications

The space requirements of an open plan school are well-suited to current systems building construction techniques. King and Weinstock (1970) point out that such techniques can easily provide movable walls, long spans with a minimum of supporting columns, and modularized heating-ventilating-cooling systems that can be adapted to a variety of space needs.

Project SOLVE (Support of Open Concept Learning Areas through Varied Educational Teams) reflects the efforts of a number of New Hampshire schools to explore the innovative implications of open plan school facilities. The project report (Somersworth School District 1970) describes the development of the project and identifies its needs. Discussions on related staff development expectations cover individualization of instruction, group process teaching skills, and principals as agents of change.

Two documents on the Fort Lincoln New Town (FLNT) education system discuss that system's open plan aspects. The first (General Learning Corporation 1969b) presents revised specifications and is directed to the teachers, administrators, students, and community residents who will be using the facility.

The second (General Learning Corporation 1969a) teaches the faculty how to creatively manipulate the structure of the new facility. Opening chapters discuss interior design, graphic considerations, materials and equipment suited for open space schools, and recommended audio systems. Later chapters cover exterior features such as soil and landscaping. The document stresses that any implementation of the open plan concept demands a continuity of effort and perspective throughout both the construction process and the life of the building.

Hollingshead (1971) reports on an Open Classroom Summer Institute for American Indian children in Oklahoma. The document includes a discussion of the physical layout of the classroom and the relation of student needs to learning environments.

The Ontario Department of Education (1971) published a document concerned with planning kindergarten areas and open space general learning facilities. A brief text is amply supported by suggestive layouts, sketches, and landscaping plans for both indoor and outdoor facilities.

Klein (1969) presents the design and structural-functional features of a new middle school in Houston, Texas. Special features, with diagrammatic representations, include open plan design, movable walls, ramp systems for vertical circulation, and built-in planning for future growth.

Anderson (1970) sees the objective of contemporary innovation in open plan schools as "not to train human components for an industrial society, but to educate, truly educate, people as individuals." In this brief discussion of open planning and individualized instruction, the author gives voice to a general concern on this subject found throughout the literature.

VARIATIONS

An interesting variation of the open plan concept is elucidated by Clinchy (1971) in his discussion of discovered or "found" space. Such space most often appears as space that a school system already owns in its outdated buildings and that is being used inefficiently, or as space lying close at hand in warehouses, factories, industrial plants, or little-used public buildings. Found space is one solution to the problem of providing needed school space despite an inability to raise money to build new schools.

Many school systems are exploring alternative solutions to the school space problem that provide new or modernized old space at a reduced cost, more or better space for the same amount of money, greater use out of existing space, and less expensive alternatives to conventional

school space. Clinchy collects all the alternatives known to EFL that appear to be actually working or that have been planned to help solve school problems.

Thackray (1970) describes New York City's "open door" program, a project seeking to establish a flexible and intimate learning environment within existing urban schools. In this program the corridor affords the physical opportunity for program continuity and interpersonal exchange across conventional lines of class and subject matter.

A supplementary report by the Wisconsin Governor's Commission on Education (Wood and others 1971) presents an optimum development of the open plan concept. The report does not deal directly with open plan structures but instead addresses itself to the broader concept of "open school." People of all ages would be able to enroll in the proposed system, and a variety of economies and efficiencies could be obtained through statewide coordination of program development, and utilization of media and access systems. The open school is characterized by open communications (no walls); open ideas and curriculums; and open access through the home, on the job, and in the community.

Brubaker and Leggett (1968) discuss the "turf concept," an early variation on open space planning and individualized instruction. The turf concept provides a home base for each individual student that is shared with four other students. Examples illustrate how turfs may be combined and related to teams of teachers and paraprofessionals within flexible environments.

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RESEARCH HIGHLIGHTS

- **Efficient use of open plan facilities requires inservice training of administrators and teachers.** *(CEFP Journal September-October 1971)*
- **The role of the teacher shifts from that of a lecturer and a verbal source of facts to that of a manager of the learning process and a source of counseling and motivational support.** *(Burr 1970)*
- **The open plan school is well suited for individualized instruction.** *(Burr 1970)*
- **Students tend to take a more active and personal interest in the learning process in an open plan facility.** *(CEFP Journal September-October 1971)*
- **Noise pollution is not a significant deterrent to learning in an open plan school.** *(Kyzar 1971)*
- **Systems building techniques with modularly coordinated building systems provide the kind of flexible spaces required for an open plan school.** *(King and Weinstock 1970)*

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